REMARKS

As the Examiner has maintained the restriction requirement, we maintain our objection to the intra-claim restriction as argued in the Response to Restriction Requirement dated April 25, 2008 ("the prior Response").

In the present Action, the Examiner has further restricted what is referred to as Group II as follows:

> R1 and R2 =cyano (CN)
>
> R3, R4, R5, R6 =H, C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, C3-C10 cycloakyl and C6-C10 aryl. [sic]
>
> X= as disclosed in claims 2, 3, 4 and 5. (Paper No. 20080722 at 2.)

The Examiner asserted that in the Restriction Requirement, the "Examiner reserved the right to further restrict if Applicant selected Group II." (Id.)

It is respectfully submitted that the further restriction is also improper for the reasons presented in the prior Response regarding intra-claim restrictions.

For clarity, it appears that the further requirements made by the Examiner noted above and the elected species derive from restriction ***Group I*** rather than Group II.

Amendments to the Specification

The Specification has been amended within paragraph 37 of the published U.S. Application, US2007/0275090, to make explicit what was implicit, namely that a hydrogen is present on the nitrogen atom for proper valency. It is noted that other compounds in paragraph 37 having a nitrogen in a similar divalent position within the X portion of the compounds are shown with a hydrogen bound to the nitrogen. See for

example, the last two compounds of paragraph 37. It is submitted that the amendment is proper, and that no new matter has been added to the Specification.

Paragraph 41 is also amended by replacing two compound structures such that they show the proper valency. In Process a) of paragraph 41, the top right structure has been replaced such that the sulfate ion is shown attached to the methyl, and the potassium (K) is shown as the end group attached to the sulfate. In Process f), the product now shows the substituent hydrogen bound to the divalent nitrogen. (This is the same compound as amended in paragraph 37, which amendment is described in the prior paragraph herein.) It is submitted that the amendments are proper, and that no new matter has been added to the Specification.

Amendments to the Claims

Claim 1 is amended to recite that R^1 and R^2 are "each a cyano group". Support is found in the Specification at, for example, paragraph 45 (of the published application, US2007/0275090), line 1; and in original claim 14. *See In re Gardner*, 177 USPQ 396, 397 (CCPA 1973) and MPEP §§ 608.01 (o) and (l).

Claim 1 is further amended such that R^3, R^4, R^5 and R^6 are recited as being "independently selected from hydrogen atoms, unsubstituted C_1-C_{10} alkyl groups, or unsubstituted C_2-C_{10} alkenyl groups". Support is found in the Specification at, for example, paragraph 13, lines 1-4; and original claim 1. (Id.)

Claim 1 is also amended to recite that "X is an alkyl, alkylaryl or alkyl cycloalkyl group containing 1 to 20 carbon atoms and optionally 1 to 10 hetero atoms, and comprising at least one group including at least one hetero atom which is positively

or negatively charged." Support is found in the Specification at, for example, paragraphs 14, 23, 25 -28 and 30; and original claim 2. (Id.)

Claims 2, 3 and 6 are amended to conform to amended claim 1. Support is found in the Specification at, for example, paragraph 23, lines 16-20; and original claim 2. (Id.)

Claims 7, 9 and 10 are amended to conform to amended claim 1 in adding "at least one" to modify the word "group."

Claims 10 and 11 are amended to provide formal Markush language.

Claim 11 is further amended to replace the word "tristromethamine" which contains an obvious typing error with "tris(tromethamine)." Support is found in the Specification at, for example, paragraph 31, line 13; and original claim 11. (Id.)

Claim 15 is amended to show the hydrogen atom as a substituent on the nitrogen atom for proper valency.

Claim 15 has also been amended to clarify that the methyl is bonded to the sulfate, and potassium is the end group bonded to the sulfate, for proper valencies.

In addition, claim 15 is amended to delete compounds that are redundant within the claim.

Claims 14 and 22 are canceled, without prejudice.

No new matter has been added to the claims.

Objections to the Specification

The Specification was objected to because of, as asserted by the Examiner, "the structural drawings as mentioned immediately below in [sic] first 112-2nd

rejection." (Id. at 3.) The Specification has been amended as noted above. It is respectfully submitted that these amendments render the objections moot. Accordingly, withdrawal of the objection is requested.

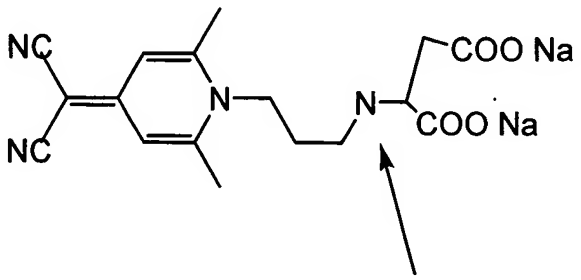
Indefiniteness Rejections

Claim 15 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. (Paper No. 20080722 at 3.)

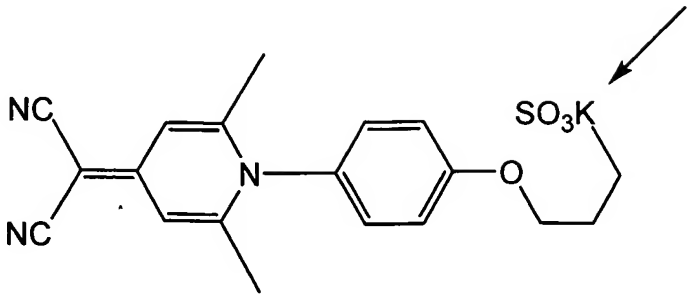
In making the rejection, the Examiner asserted that "[t]he structures below have the following problems: The first two structures does [sic] not have the correct valency the specified nitrogen position [sic]." (Id.).

The Examiner also asserted that "[t]he third and last structure has a covalent bond to potassium (K). If so, there would be valency issues with K, the carbon to which the K is bonded and the sulfate counter ion." (Id.)

The Examiner provided the following structure as "the first two structures" indicated:



The Examiner has provided the following structure as the "third and last structure":



As noted above, claim 15 has been amended for purposes of clarity with respect to these issues.

In addition, the Examiner asserted that "[t]he term "tristromethamine ion" in claim 11 is an indefinite term." (Id. at 4.)

Claim 11 which recites options for the group "Y" has been amended for purposes of clarity to add the omitted parentheses (i.e., by replacing "tristromethamine" with "tris(tromethamine)." The Specification discloses the "tromethamine ion" as an example of Y as a positively charged organic residue. (Paragraph 31, lines 11-13.) Moreover, tris(tromethamine) is a well known compound, (which is also known as trihydroxymethylaminomethane) having the chemical formula $H_2NC(CH_2OH)_3$ [CAS: 77-86-1].

In view of the foregoing, the rejection has been rendered moot. Accordingly, withdrawal of the § 112, second paragraph indefiniteness rejection is requested.

Written Description Rejection

Claim 11 was rejected under 35 U.S.C. § 112, first paragraph, because the Specification fails to describe the claimed subject matter in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

application was filed, had possession of the claimed invention. (Paper No. 20080722 at 4-5.)

In making the rejection, the Examiner asserted that "[t]here is no evidence/written description in the specification for [the] variable" of the "claimed compounds of formula I wherein Y is 'tristromethamine ion'." (Id. at 5.)

As is well settled, to satisfy the written description requirement the inventor must convey with reasonable clarity to those skilled in the art that he was in possession of the claimed invention. (*See* Vas-*Cath Inc. v. Mahurkar*, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991); *see also*, *Waldemar Link GmbH & Co. v. Osteonics Corp.*, 32 F.3d 556, 558, 31 USPQ2d 1855, 1877 (Fed Cir 1994).) There is a strong presumption that an adequate written description of the claimed invention is present in an application as filed. *See In re Werthheim*, 191 USPQ 90, 97 (CCPA 1976) and MPEP §2163(II)(A) (8th ed. Rev. 3, August 2005, p. 2100-176).

As noted above, claim 11, which recites options for the group "Y" has been amended for purposes of clarity by adding the omitted parentheses (*i.e.*, by replacing "tristromethamine" with "tris(tromethamine)"). The Specification discloses the "tromethamine ion" as an example of Y as a positively charged organic residue. (Paragraph 31, lines 11-13.) Tris(tromethamine) is a well known compound, also known as trihydroxymethylaminomethane having the chemical formula $H_2NC(CH_2OH)_3$ [CAS: 77-86-1].

In view of the foregoing, the rejection has been rendered moot. Accordingly, withdrawal of the § 112, first paragraph written description rejection is requested.

Enablement Rejection

Claims 1-17 were rejected under 35 U.S.C. § 112, first paragraph, as the Specification is allegedly not enabled commensurate in scope with the claims. (Paper No. 20080722 at 6.)

In making the rejection, the Examiner acknowledged that the specification is "enabling for R3, R4, R5, R6 being H and unsubstituted alkyl and alkenyl and X being alkyl optionally substituted with O, N, S, pyridinyl, cycloalkyl and phenyl...". (Id.)

The Examiner asserted, however, that the Specification "does **not** reasonably provide enablement for R3, R4, R5, R6 being all alkynyl, cycloalkyl and aryl as claimed (substituted or unsubstituted) and all possibilities as disclosed in claims 2, 3, 4 and 5." (Id.) (emphasis in original.)

The Examiner further acknowledged that "[p]ages 14-17 of the Specification describe starting materials and methods for synthesis of compounds wherein R3, R4, R5, R6 being H and unsubstituted alkyl and alkenyl and X being alkyl optionally substituted with 0, N, S, pyridinyl, cycloalkyl and phenyl." (Id. at 6-7). The Examiner asserted, however, that the Specification "does not describe or list any reagents wherein compounds can be used to synthesis [sic] compounds where R3, R4, R5, R6 and X as listed above." (Id. at 6-7.)

The Examiner concluded that "[d]ue to the level of unpredictability in the art, the very limited guidance provide [sic], and the lack of working examples, the Applicant has shown lack of enablement for the groups noted." (Id. at 10.)

To forward prosecution in the present application, claim 1 has been amended, *inter alia*, such that R^3, R^4, R^5, and R^6 are recited as "independently selected

from hydrogen atoms, unsubstituted C_1-C_{10} alkyl groups, or unsubstituted C_2-C_{10} alkenyl groups," which the Examiner concedes is enabled. (See Id. at 6).

Claim 1 has also been amended, *inter alia*, to recite that X is "an alkyl, alkylaryl or alkyl cycloalkyl group containing 1 to 20 carbon atoms and optionally 1 to 10 hetero atoms, and comprising at least one group including at least one hetero atom which is positively or negatively charged".

In order to make a rejection under § 112, first paragraph, the Patent Office must substantiate its doubt as to the truth of the teaching of the specification with evidence or reasoning. Objective enablement is all that is required to satisfy the enablement requirement of 35 USC § 112, first paragraph. *In re Marzocchi*, 169 USPQ 367 (CCPA 1971). To make a valid non-enablement rejection, sufficient scientific evidence must be presented to demonstrate that the specification is non-enabling. This the Examiner has not done.

The Examiner has not provided any reasoning as to why "***all*** possibilities as disclosed in claims 2, 3, 4 and 5" are allegedly not enabled by the specification for group X. (emphasis added.) Furthermore, it is submitted that the Examiner's concerns regarding claim scope have been rendered moot in view of the amendments presented above.

Regarding how to make compounds encompassed by amended claim 1, the Specification discloses such methods, for example, in paragraphs 39 to 41, and Examples 1-5 at paragraphs 102-117. Regarding use of the compounds of the amended claims, the Specification provides sufficient disclosure, for example, in paragraph 57, lines 1-2, and in paragraph 100. Moreover, the application is replete with

disclosure regarding residue X and residue X in relation to counterion Y, for example, at paragraphs 14, 23-36, and 44-54.

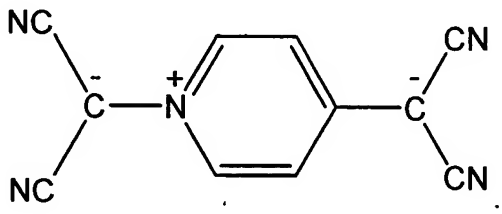
In view of the foregoing, it is submitted that the § 112, first paragraph lack of enablement rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

Anticipation Rejections

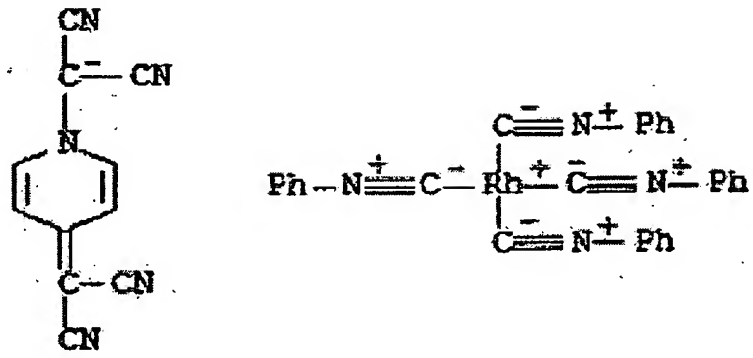
A. Matsubayashi

Claims 1-5, 9 and 12-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by Matsubayashi et al (Inorganica Chemica Aceta 1982, 63, 217-224 - PTO-1449) ("Matsubayashi"). (Id. at 11.)

Matsubayashi discloses "the preparation and electrical resistivities of some simple salts of the $[Rh(RNC)4]^+$-$ATCNQ^-$ type, and the mixed $ATCNQ^-$/TCNQ and $ATCNQ^-$/TCNQ/TCNQ salts with $[Rh(RNC)4]^+$ (R=C6H5, 2,6-Me2C6H3, and 2,4,6-Me3C6H2)...". (Page 217, fifth to first from the bottom). Matsubayashi depicts $ATCNQ^-$ which is designated as formula I, as follows:



In making the rejection, the Examiner asserted that "Matsubayashi discloses compounds and compositions of Formula I where R3, R4, R5, R6=H, R1/R2=CN, X=C1 alkylene group containing [sic] 2 heteroatoms (N) and Y=tetrakis(phenylisocyanide)rhodium(I) (see compound below and page 217, right column)." (Id.)



The Examiner has depicted the ATCNQ$^-$ compound shown above on the left, i.e., formula I, with the double bonds shifted as compared to how Matsubayashi depicts the compound (see further above).

As is well settled, anticipation requires "identity of invention." *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply*, 33 USPQ2d 1496, 1498 (Fed. Cir. 1995). Each and every element recited in a claim must be found in a single prior art reference and arranged as in the claim. *In re Marshall*, 198 USPQ 344, 346 (CCPA 1978); *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir 1984).

To forward prosecution in the present application, claim 1 has been amended, *inter alia*, to recite that substituent X "is an alkyl, alkylaryl or alkyl cycloalkyl group containing 1 to 20 carbon atoms and optionally 1 to 10 hetero atoms, and comprising at least one group including at least one hetero atom which is positively or negatively charged".

It is respectfully submitted that the Examiner has erred in asserting that "Matsubayashi discloses . . . X=C1 alkylene group containing [sic] 2 heteroatoms (N)".

The two CN ylide groups which are attached to the carbanion (which is substituted on the ring nitrogen) each have a net neutral charge due to a negative charge on the carbon atom and a positive charge on the nitrogen atom. If one were to consider these charges of the atoms of the CN ylide, one would note that the carbon would be considered part of X and the nitrogen would comprise a counterion Y. In this regard, the Examiner is referred to the present Specification, for example, paragraphs 24, 29, 33 and 34. Thus, the nitrogen atoms of the CN ylides are not part of residue X.

Also as noted, Matsubayashi discloses a negative charge on the carbon atom which forms the carbanion (which is attached to the N^+ of the pyridine ring). This carbanion thus provides the net negative charge for Matsubayashi's "X" component. No hetero atom, as presently claimed, is part of this negatively charged group.

Thus, Matsubayashi's "X" does not include any hetero atom. Furthermore, none of the groups within Matsubayashi's "X" have at least one hetero atom and is positively or negatively charged. In view of the foregoing, ***Matsubayashi does not disclose a compound in which X comprises at least one group including at least one hetero atom which is positively or negatively charged.***

Thus, the rejection fails to identify where in Matsubayashi each and every element of the amended claims is shown. Indeed, Matsubayashi does not disclose each and every element of the claims, which recite a compound having an X group comprising at least one group including at least one hetero atom which is positively or negatively charged.

It is submitted that the rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

B. Tanaka

Claims 1-5, 9 and 12-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by Tanaka et. Al, Bull. Chem. Soc. Jpn. (1984) 57, 2198-2202 ("Tanaka"). (Paper No. 20080722 at 12.)

Tanaka discloses that "[t]he [Cation]$^{+}$ATCNQ type salts were prepared" (Abstract, line 1), and that "work was undertaken to elucidate the properties of the ATCNQ^{-} salts with organic cations having various reduction potentials." (Page 2198, left Col., lines 15-17.)

In making the rejection, the Examiner asserted that "Tanaka discloses compounds and compositions of Formula I where R3, R4, R5, R6=H, R1/R2=CN, X=C1 alkylene group containing 2 heteroatoms and Y as disclosed ... (see page 2198, left column)." (Paper No. 20080722 at 12.)

As is well settled, anticipation requires "identity of invention." *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply*, 33 USPQ2d at 1498. Each and every element recited in a claim must be found in a single prior art reference and arranged as in the claim. *In re Marshall*, 198 USPQ at 346 (CCPA 1978); *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 221 USPQ at 485.

Tanaka formula I shown on page 2198, left Col., line 2 which is identified by the Examiner, is the same as the structure of formula I in Matsubayashi. For formula I of Tanaka, see section A above, i.e., formula I of Matsubayashi. Also, Tanaka depicts ammonium compounds as cations corresponding to Y. (Page 2198, left column.)

To forward prosecution in the present application, claim 1 has been amended, *inter alia*, to recite that substituent X "is an alkyl, alkylaryl or alkyl cycloalkyl

group containing 1 to 20 carbon atoms and optionally 1 to 10 hetero atoms, and comprising at least one group including at least one hetero atom which is positively or negatively charged".

As Tanaka formula I is the same as Matsubayashi's formula I, the Examiner is referred to the arguments presented above in section A. In view of the arguments presented above, ***Tanaka does not disclose a compound in which X comprises at least one group including at least one hetero atom which is positively or negatively charged.***

The rejection fails to identify where in Tanaka each and every element of the amended claims is shown. Indeed, Tanaka does not disclose each and every element of the claims, which recite a compound having an X group comprising at least one group including at least one hetero atom which is positively or negatively charged.

It is submitted that the rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

C. Urayama

Claims 1-5, 9 and 12-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by Urayama et al., Synthetic Metals 1987, 19, 469-474 ("Urayama"). (Paper No. 20080722 at 12.)

Urayama discloses an "[investigation of] possibilities to form conductive solids based on AzaTCNQ." (Page 470, lines 1-2.) Urayama also discloses that "[o]ne possibility might be as an organic counter anion instead of the common inorganic anion... Another could be the mixed valence state of AzaTCNQ." (Page 470, lines 2-

4.) Urayama disclose "[selecting] the TTF family as a donor component." (Page 470, lines 4-5.)

In making the rejection, the Examiner asserted that "Urayama discloses compounds and compositions of Formula I where R3, R4, R5, R6=H, R1/R2=CN, X=C1 alkylene group containing 2 heteroatoms and Y as disclosed ... (see Table 1, page 471)." (Paper No. 20080722 at 12.)

As noted previously, anticipation requires "identity of invention." *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply*, 33 USPQ2d at 1498. Each and every element recited in a claim must be found in a single prior art reference and arranged as in the claim. *In re Marshall*, 198 USPQ at 346; *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 221 USPQ at 485.

Urayama's AzaTCNQ disclosed on page 469, shown at bottom, is the same as the formula I compound of Matsubayashi and Tanaka. See the corresponding structures in section A above, formula I of Matsubashi.

To forward prosecution in the present application, claim 1 has been amended, *inter alia*, to recite that substituent X "is an alkyl, alkylaryl or alkyl cycloalkyl group containing 1 to 20 carbon atoms and optionally 1 to 10 hetero atoms, and comprising at least one group including at least one hetero atom which is positively or negatively charged".

Because Urayama's AzaTCNQ is the same as Matsubayashi's formula I (and Tanaka' formula I), the Examiner is referred to the arguments presented above in section A. In sum, ***Urayama does not disclose a compound in which X comprises***

at least one group including at least one hetero atom which is positively or negatively charged.

The rejection fails to identify where in Urayama each and every element of the amended claims is shown. Indeed, Urayama does not disclose each and every element of the claims, which recite a compound having an X group comprising at least one group including at least one hetero atom which is positively or negatively charged.

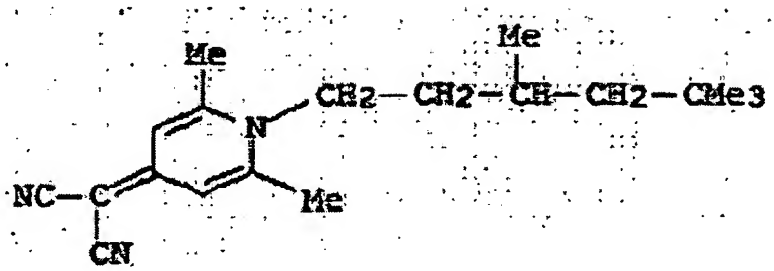
It is submitted that the rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

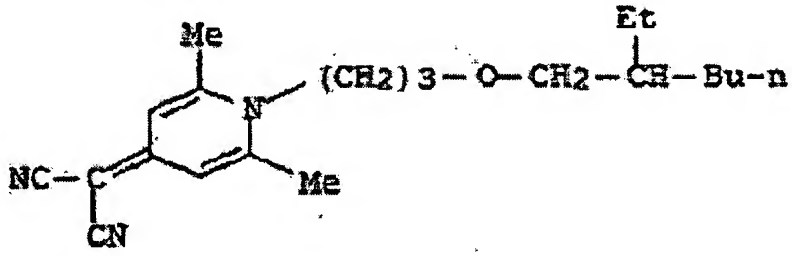
Obviousness Rejection

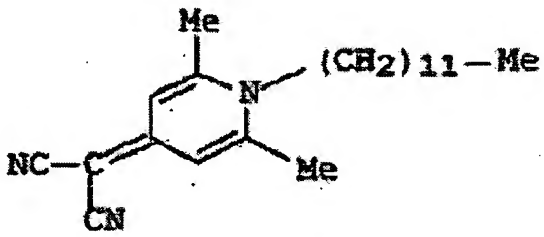
Claims 1-10, 12-14 and 16-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Berg-Schultz, WO 03/068183 ("WO '183"). (Paper No. 20080722 at 14.)

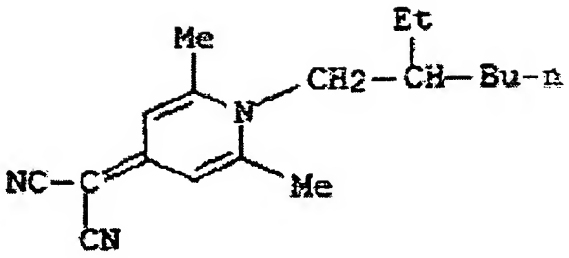
WO '183 discloses "1,4-dihydropyridine and 1,4-dihydropyrane derivatives and ... cosmetic or dermatological sunscreen compositions [containing these] derivatives which are useful for photoprotecting human skin and/or hair against UV radiation, in particular solar radiation, and the use of such ... derivatives as UV-A screening agents...". (Abstract, lines 1-4.) Emulsions comprising the derivatives are disclosed. (Page 8, line 32 – Page 12, line 18.)

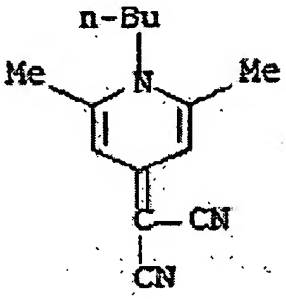
In making the rejection, the Examiner asserted that "WO '183 discloses compounds and compositions of Formula I wherein R3/R4=H, R5/R6=CH3, R1/R2=CN, X=C1-C20 alkylene that optionally contain 1-10 heteroatoms (as shown below and pages 1-2, Formula I and species therein)." (Paper No. 20080722 at 14.)

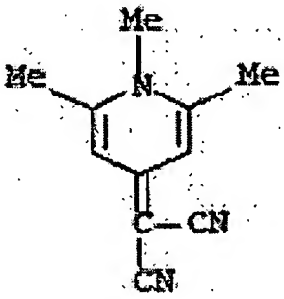

Me
Me
CH2—CH2—CH—CH2—CMe3
N
NC—C
Me
CN


Et
Me
(CH2)3—O—CH2—CH—Bu-n
N
NC—C
Me
CN


Me
(CH2)11—Me
N
NC—C
Me
CN







The Examiner acknowledged that "WO '183 differs from instant application at the Y position: WO '183's compounds as shown above are neutral compounds of Formula I versus Applicant's Y being a counter ion." (Id. at 15.)

The Examiner asserted, however, that "WO '183 teaches that the addition of electrolytes into the composition ... can potentially change the behavior of the [sic]

hydrophobic emulsifier. WO '183 goes on to suggest that these emulsions may contain one of several salts which may include anions such as (a) chloride, sulfate, carbonate, borate or aluminate and (b) organic anions such as but not limited to lactate, acetate, benzoate, etc. (see page 12, lines 8-18)." (Id.)

Furthermore, the Examiner asserted that "the genus of Formula I, page [sic] of the reference by WO '183 teaches:

(f) X is a group $-(R^9\text{-}O\text{-}R^{10})_x\text{-}O\text{-}(R^{11}\text{-}O\text{-}R^{12})_y$ -, wherein R^9, R^{10}, R^{11} and R^{12} are, independently, methylene, ethylene or propylene, and x and y are, independently 1, 2 or 3. (see lines 31-32, page 3) [and]

(c) R^3 and R^4 are hydrogen and R^5 and R^6 are alkyl or cycloalkyl. (see lines 28, page 3)." (Id. at 16.)

The Examiner concluded that "[i]t would be [sic] obvious for one of ordinary skill in the art to combine the disclosed compounds along with the teachings of Formula I of WO '183 in order to achieve the instant invention. In combination with the disclosed species and teachings as mentioned above, one of ordinary skill would be [sic] further motivated to use the reference of WO '183 because it's utility is used to [sic] as cosmetic or dermatological sunscreen compounds and composition (see page 1, first paragraph) as claimed by instant application." (Id.)

It is well settled the Examiner bears the burden to set forth a *prima facie* case of unpatentability. *In re Glaug*, 62 USPQ2d 1151, 1152 (Fed. Cir. 2002); *In re Oetiker*, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); and *In re Piasecki*, 223 USPQ 785, 788 (Fed. Cir. 1984). If the PTO fails to meet its burden, then the applicant is entitled to a patent. *In re Glaug*, 62 USPQ2d at 1152.

When patentability turns on the question of obviousness, as here, the search for and analysis of the prior art by the PTO should include evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and modify the document(s) relied on by the Examiner as evidence of obviousness. *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1731-32 (2007) (the obviousness "***analysis should be made explicit***" and the teaching-suggestion-motivation test is "***a helpful insight***" for determining obviousness) (emphasis added); *McGinley v. Franklin Sports*, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). Moreover, the factual inquiry whether to modify document(s) must be thorough and searching. And, as is well settled, the teaching, motivation, or suggestion test "***must be based on objective evidence <u>of record</u>***." *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002) (emphasis added). *See also Examination Guidelines for Determining Obviousness*, 72 Fed. Reg. 57526, 57528 (October 10, 2007) ("The key to supporting any rejection under 35 USC § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.").

Respectfully, we submit that the rejection is devoid of a proper § 103 analysis in support of the proposed modification. All that is there are conclusory statements such as the assertion that "[i]t would be [sic] obvious for one of ordinary skill in the art to combine the disclosed compounds along with the teachings of Formula I of WO '183 in order to achieve the instant invention. In combination with the disclosed species and teachings as mentioned above, one of ordinary skill would be [sic] further motivated to use the reference of WO '183 because it's utility is used to [sic] as

cosmetic or dermatological sunscreen compounds and composition (see page 1, first paragraph) as claimed by instant application." (Paper No. 20080722 at 16.)

Here, what the rejection should have done, but did not, was to explain on the record ***why*** one skilled in this art would modify the disclosure of WO '183 in the manner proposed by the Examiner to arrive at the claimed process. As is well settled, an Examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done. *Takeda Chem. Indus., Ltd v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. June 28, 2007) (citing *KSR*) (indicating that "it remains necessary to identify ***some reason*** that would have led a chemist to modify a known compound in a particular manner to establish prima facie obviousness of a new claimed compound") (emphasis added); *Ex parte Levengood*, 28 USPQ2d 1300, 1301-02 (BPAI 1993). But this is precisely what the Examiner has done here. Thus, the rejection is legally deficient and should be withdrawn for this reason alone.

Notwithstanding the legally insufficient nature of the rejection, we note that the rejection is also factually insufficient to support a rejection under § 103(a). In doing so we observe that obviousness cannot be based upon speculation, nor can obviousness be based upon possibilities or probabilities. Obviousness ***must*** be based upon facts, "cold hard facts." *In re Freed*, 165 USPQ 570, 571-72 (CCPA 1970). When a conclusion of obviousness is not based upon facts, it cannot stand. *Ex parte Saceman*, 27 USPQ2d 1472, 1474 (BPAI 1993). Further, "to establish *prima facie* obviousness of a claimed invention, ***all claim limitations must be taught or***

suggested by the prior art." MPEP § 2143.03 (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)) (emphasis added).

To forward prosecution in the present application, claim 1 has been amended, *inter alia*, to recite that substituent X "is an alkyl, alkylaryl or alkyl cycloalkyl group containing 1 to 20 carbon atoms and optionally 1 to 10 hetero atoms, and comprising at least one group including at least one hetero atom which is positively or negatively charged".

WO '183 fails to suggest or provide motivation for the compounds of the amended claims. As the Examiner has acknowledged, ***WO '183's compounds have a group corresponding to X that is neutral in charge***. Furthermore, ***the Examiner has not pointed to any compounds in WO '183 that include a hetero atom in X.*** The presently claimed compounds, on the other hand, have an X which "[comprises] at least one group including at least one hetero atom which is positively or negatively charged", and a Y that "is a counterion." The Specification indicates that "[r]esidue Y is a counterion which should balance the charge of residue X." (Paragraph 31, lines 1-2.) It is further disclosed that ""[i]t is important that residue Y is selected so that the total molecule of the formula I is not charged." (Paragraph 33, lines 3-5.) WO '183 thus provides no suggestion or motivation for the use of an X which "[comprises] at least one group including at least one hetero atom which is positively or negatively charged". Nor does WO '183 suggest or provide motivation for the claimed compounds in which Y "is a counterion" which, as disclosed by the Specification, is used to "balance the charge of residue X." For these reasons also, it is submitted the rejection has been overcome.

In addition, WO '183 relates to dihydropyridine and dihydropyrane derivatives which are useful for photoprotecting human skin and/or hair against UVA radiation which are ***oil-soluble compounds***. The amended claims recite compounds, which are useful for photoprotecting the skin and hair against UVA radiation and which are ***water-soluble compounds***. (See, e.g., paragraphs 10, 35, and 36.) WO '183 provides no motivation to modify the compounds to render them water-soluble. Furthermore, there is no suggestion in WO '183 as to how to modify the disclosed dihydropyridine and dihydropyrane compounds to render them water-soluble and simultaneously preserve the UVA filter properties, to achieve the presently claimed compounds. For these reasons in addition, it is submitted that the subject matter of the present application is not obvious in view of WO '183.

It is also noted that WO '183 discloses that cosmetic emulsions may contain electrolytes such as salts of inorganic or organic ions. WO '183 discloses the addition of emulsifiers "in order to form O/W, W/O, O/W/O or W/O/W emulsions/ microemulsions...", and provides numerous examples of such emulsifiers. (Page 8, lines 32 – Page 9, line 17.) WO '183 further discloses that "[t]he addition of electrolytes into the composition... may be necessary to change the behavior of a hydrophobic emulsifier." (Page 12, line 8-18.) It is well known to a person skilled in the art that electrolytes influence the stability of emulsions by improving coalescence. Thus, WO '183 also discloses to add a salt, such as sodium chloride, to a cosmetic composition, which comprises a hydrophobic emulsifier and the disclosed compounds in order to enhance the emulsion stability. The Examiner has not indicated how this disclosure could direct a skilled person to the claimed invention.

The disclosure of the oil soluble compounds of WO '183, therefore, does not lead a person skilled in the art to the claimed compounds encompassing water-soluble compounds having an X group which "[comprises] at least one group including at least one hetero atom which is positively or negatively charged". Nor does WO '183 suggest or provide motivation for the claimed compounds in which Y "is a counterion" which, as disclosed by the Specification, is used to "balance the charge of residue X." Without an X group that has a net charge in WO '183, it is not seen how the addition of a salt to change the behavior of an added emulsifier provides any suggestion or motivation to achieve the claimed compounds in which Y is a counterion which balances a charged residue X.

It is submitted that the rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

Provisional Double Patenting Rejection

Claims 1-10,12-14 and 16-17 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 and 9-19 of copending US Application No. 10/494,500 published as US 2005/0019278 ("US '278"), which is the US equivalent of WO '183 to Berg-Schultz. (Paper No. 20080722 at 19.)

In making the rejection, the Examiner asserted that "[a]lthough the conflicting claims are not identical, they are not patentably distinct from each other ...". (Id.)

The Examiner asserted that "US '278 discloses and claims compound [sic] and compositions of Formula I wherein R3/R4=H, R5/R6=CH3, R1/R2=CN, X=C1-C20

alkylene that optionally contain 1-10 heteroatoms (as shown ... and pages 1-2, Formula I and species therein)." (Id.) The compounds identified by the Examiner are the same as those identified in the § 103 rejection over WO '183 and which are reproduced above.

The Examiner further asserted that "US '278 differs from instant application at the Y position: US '278's compounds as shown above are neutral compounds of Formula I versus Applicant's Y being a counter ion. However, US '278 teaches that the addition of electrolytes into the composition of his invention can potentially change the behavior of the hydrophobic emulsifier. US '278 goes on to suggest that these emulsions may contain one of several salts which may include anions such as (a) chloride, sulfate, carbonate, borate or aluminate and (b) organic anions such as but not limited to lactate, acetate, benzoate, etc. (see paragraph 86)." (Id. at 21.)

Furthermore, the Examiner asserted portions of the Specification of US '278 regarding the "genus of Formula I", as follows: "[0008] X is a moiety R^7, when m is 1; and is alkylene or poly(oxyalkylene) when m is 2;" (see paragraph 8), and "[0009] R^7 is hydrogen, alkyl, cycloalkyl, alkoxyalkyl or aryl. (see paragraph 9)." (Id.)

The Examiner concluded that "[i]t would be obvious for one of ordinary skill in the art to combine the disclosed compounds along with the teachings of Formula I of US '278 in order to achieve the instant invention. In combination with the disclosed species and teachings as mentioned above, one of ordinary skill would be further motivated to use the reference of US '278 because it's utility is used to as cosmetic or

dermatological sunscreen compounds and composition (see page 1, first paragraph) as claimed by instant application." (Id. at 22.)

The rejection of claims 1-10, 12-14 and 16-17 in this application over claims 1-7 and 9-19 of the US '278 application fails to make a ***claim-by-claim comparison and analysis***. As the Federal Circuit explained, a "double patenting challenge must be evaluated, like any other ground of invalidity, ***against individual claims***." *Ortho Pharmaceutical Corp. v. Herchel Smith* 22 USPQ2d 1119 (Fed. Cir. 1992). *See also* MPEP § 804. The Examiner only made reference to various portions of the disclosure rather than the claims of US '278. This is improper as a matter of law. For this reason alone, the rejection should be withdrawn.

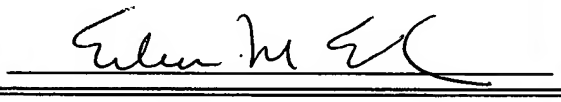
With a view towards furthering prosecution in the present application, claim 1 has been amended, *inter alia*, to recite that substituent X "is an alkyl, alkylaryl or alkyl cycloalkyl group containing 1 to 20 carbon atoms and optionally 1 to 10 hetero atoms, and comprising at least one group including at least one hetero atom which is positively or negatively charged".

We incorporate the arguments presented above in response to the § 103 rejection over WO '183 here. Accordingly, it is submitted that the oil soluble compounds of the claims of US '278 which have an uncharged X without any hetero atoms, fails to suggest or provide motivation for the amended claims. Furthermore, the Examiner has not indicated how the addition of a salt to change the behavior of an added emulsifier provides any suggestion or motivation to achieve the claimed compounds in which Y is a counterion which (charge) balances a charged residue X. It is submitted that the cited claims of US '278 do not render the amended claims obvious.

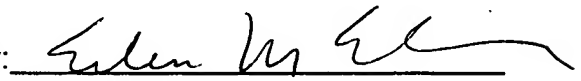
It is respectfully submitted that the obviousness-type double patenting rejection has been overcome. Reconsideration and withdrawal of the rejection are requested.

Accordingly, for the reasons set forth above, entry of the amendments, withdrawal of the rejections, and allowance of the claims are respectfully requested. If the Examiner has any questions about this paper, please contact the undersigned.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on December 4, 2008.



Respectfully submitted,

By: 

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